CLAIMS

1. A method of operating a mobile communication device, comprising the steps of:

calculating parameters indicative of received signal strength over time;

determining whether a predetermined relationship exists between the values of the parameters; and

determining reselection is imminent if said predetermined relationship exists.

2. The method as defined in claim 1, where said step of determining whether a predetermined relationship exists determines how many predetermined conditions exist.

3. The method as defined in claim 1, wherein said step of calculating includes measuring received signal strength.

4. The method as defined in claim 3, wherein said step of calculating includes computing a plurality of parameters as a mean of the received signal strength measurements.

5. The method as defined in claim 4, wherein said step of determining if at least one predetermined criteria is met determines if a plurality of parameters are met.

6. The method as defined in claim 1, further including the step of sending a message to at least one of a virtual bearer and a network upon determining that a reselection is imminent.

7. The method according to claim 1, further including the step of calculating a relative time for said reselection.

8. The method according to claim 1, further including the step of receive threshold information from the network for controlling mobile reselection.

9. The method of claim 1, wherein the step of computing comprises performing RSSI measurements.

10. The method of claim 9, wherein the RSSI measurements are computed every time division multiple access frame in a temporary block flow mode.

11. The method according to claim 1, further including the step of initiating flow control in response to determining that reselection is imminent.

12. The method of claim 11, further including the step of entering flow control in the virtual bearer responsive to a signal received from the network.

13. The method of claim 11, further including the step of entering flow control in the virtual bearer responsive to the message that reselection is imminent.

14. A mobile communication device, comprising:

a measurement module;

a reselection predictor coupled to the measurement module, the reselection predictor producing in the mobile communication device a likelihood of cell reselection message based on measurements made by the mobile.

15. The mobile communication device according to claim 14, further including a virtual bearer for applying flow control to the lower layers, the virtual bearer applying flow control responsive to a determination that a cell change is imminent.

16. The mobile communication device according to claim 15, wherein the virtual bearer is coupled to the reselection predictor to receiving the likelihood of cell reselection message from the predictor.

17. The method according to claim 7, wherein said step of calculating further includes performing an *n*-points sliding parabola calculation by finding required initial sums based on the first y_j reselection criteria values at corresponding moments t_j.

18. The method according to claim 17, wherein said step of calculating further comprises, determining the moment of time T_d at which

$$a_0(T_d) > 0 \;\&\; \&a_1(T_d) < 0 \;\&\; \&sign[a_2(T_d - \Delta T)] < 0 \;\&\; \&sign[a_2(T_d + \Delta T)] > 0$$

AND

the m sequentially calculated reselection criteria RC satisfy the following inequalities:

$$RC(T_d + \Delta T) > RC(T_d + 2\Delta T) > RC(T_d + 3\Delta T) > \ldots > RC(T_d + m\Delta T) > 0$$

where reselection criteria RC is calculated using a running parabola approximation,

AND

$$sign[a_0(T_d + m\Delta T)] > 0 \;\&\; \&sign[a_1(T_d + m\Delta T)] < 0$$

THEN

the cell reselection predicted time T_r is

$$T_r = -a_0(T_d)/a_1(T_d).$$

Where

$a_0 = (P - Ba_1 - Ca_2)/n;$

$a_1 = (R - Fa_2)/E;$

$a_2 = (S - RQ)/(M - FQ);$

$D = S_{t(i)};$

$B = S_{t(i)} = S_{t(i-1)} - t_{i-1} + t_i;$

$C = S_{tt(i)} = S_{tt(i-1)} - t_{i-1}t_{i-1} + t_i t_i;$

$F = S_{ttt(i)} = S_{ttt(i-1)} - t_{i-1}t_{i-1}t_{i-1} + t_i t_i t_i;$

$M = S_{tttt(i)} = S_{tttt(i-1)} - t_{i-1}t_{i-1}t_{i-1}t_{i-1} + t_i t_i t_i t_i;$

$P = S_{y(i)} = S_{y(i-1)} - y_{i-1} + y_i;$

$R = S_{ty(i)} = S_{ty(i-1)} - t_{i-1}y_{i-1} + t_i y_i;$

$S = S_{tty(i)} = S_{tty(i-1)} - t_{i-1}t_{i-1}y_{i-1} + t_i t_i y_i;$

$E = S_{tt(i)};$

$K = S_{tt(i)};$

$L = S_{ttt(i)};$

$$Q = D / n;$$

$$E = E - QB;$$

$$F = F - QC;$$

$$R = R - QP;$$

$$Q = K / n;$$

$$L = L - QB;$$

$$M = M - QC;$$

$$S = S - QP;$$

$$Q = L / E;$$

$$S_{t0} = \sum_{j=1}^{n} t_j;$$

$$S_{tt0} = \sum_{j=1}^{n} t_j t_j;$$

$$S_{ttt0} = \sum_{j=1}^{n} t_j t_j t_j;$$

$$S_{tttt0} = \sum_{j=1}^{n} t_j t_j t_j t_j;$$

$$S_{y0} = \sum_{j=1}^{n} y_j;$$

$$S_{ty0} = \sum_{j=1}^{n} t_j y_j;$$

$$S_{tty0} = \sum_{j=1}^{n} t_j t_j y_j;$$

$$RC(t) = a_0 + a_1 t + a_2 t^2.$$